Meeting #2

Pole Attachment Working Group (PAWG)

"Policy Review of Wireline Pole Attachment Charges"

Minutes of Meeting

Prepared by

NGL Nordicity Group Limited ("Nordicity")

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Wireline Poles Attachment Working Group Meeting #2

Meeting Date	Wednesday, July 27, 2016
Location	2300 Yonge Street, Toronto, 25th Floor (West Hearing Room)
Time	9:35 a.m. to 4:15 p.m.
Organized by	Ontario Energy Board (OEB)
Facilitated by	Nordicity Group Limited (NGL)

Participants		
	OEB	1) Vince Mazzone 2) Michael Lesychyn 3) Maureen Helt (morning only) 4) Ian Richler (afternoon only)
	NGL	5) Stuart Jack 6) Tanveer Ahmed 7) Emily Macrae
	Utilities	8) Casey Malone (HO - Hydro Ottawa) 9) John Boldt (H1 - Hydro One) 10) Roy Rogers (CHEC - Cornerstone Hydro Electric Concepts Inc.) 11) Arjun Devdas (TH – Toronto Hydro and CEA -Canadian Electricity Association) 12) Jagoda Borovickic (LH - London Hydro) – *joined at 11 am*
	Carriers	13) Michael Piaskoski (Rogers) 14) David Wilkie (TbayTel) 15) Kris Eby (BHT - BH Telecom) 16) Tim Brown (Cogeco) – *by conference call*
	Ratepayer Groups	17) Mark Rubenstein (SEC - School Energy Coalition)
	Regrets	18) Michael Bell (OEB) 19) David Haddock (HN – Horizon Utilities) 20) William Harper (VECC – Vulnerable Energy Consumer Coalition)

Agenda Items	Comments
1) Introduction	Mr. Mazzone (OEB) started the meeting with introduction and overview of the agenda.
2) Data Collection Status Update	**Nordicity provided update on Utilities' submissions re. data collection request:** • <u>Item # 1 - Pole Specifications</u>: 5 data items were requested by pole size and class, including: Power Space, Separation Space, Communication Space, Clearance Space, and Buried Space. 5 Utilities (TH, LH, HO, H1, and HN) fully responded. No response received from CHEC, which comprises of 15 smaller utilities. Only one CHEC utility (Midland Power) submitted requested data directly. • <u>Item # 2 - Pole Population</u>: 3 data items were requested by pole size and class, including: Total number of poles, Total number of telecom attachers, and total number of other attachers. 2 Utilities (LH and HN) fully responded. H1 and HO

Agenda Items	Comments
	partially responded. TH declined to submit any information for this item. No response received from CHEC, which comprises of 15 smaller utilities. Only one CHEC utility (Midland Power) submitted requested data directly. • Item # 3 - Attachments: 2 data items were requested by pole size and class, including number of poles and their percentage of total population with maximum and minimum number of actual attachments. Number of attachments means the number of bolts through the pole holding the support strands. Only HN fully responded. No response received from TH, LH, HO, H1, and CHEC. Only one CHEC utility (Midland Power) submitted requested data directly. Mr. Malone (HO) pointed out that HO submitted attacher data a week late, but not reflected in the table (slide # 7). Mr. Ahmed (NGL) asked if maximum and minimum number of attacher data was provided. Mr. Malone to double check and will resend. • Item # 4 – Pole Costs: 8 data items were requested for the period 2005-2015, including: Total embedded cost (TEC), Total net embedded cost (TNEC), Depreciation method applied (DM), average depreciation rate used (ADR), total maintenance expense (TME), total administration expense (TAE), loss of productivity expense (LPE), % capital carrying cost (CC), and total number of poles (TNP). TH provided full response excluding LPE. LH, H1, and HN provided full response excluding TME, TAE, and LPE. HO provided full response excluding TAE and LPE. No response received from CHEC. Only one CHEC utility (Midland Power) submitted requested data directly. • HO was asked why its embedded cost dropped between 2009 and 2010. HO stated that the longer financial life moving from CGAP to IRFS was the main driver. This has been confirmed with its finance group that HO was one of the first LDCs to revise the financial lives of its assets. • In response a question from Mr. Rubenstein (SEC), Nordicity clarified that the pole data requested under Item # 2 above, is for joint use poles. Total pole population data is included in Item # 4 above. • Mr. Rubenstein (SEC) asked if the total number of attached (Item # 2 above) is the total number of attachers that are paying. Nordicity clarified that it was not specified in the data request, so it was interpreted by each utility while submitting their response. Mr. Boldt (H1) confirmed that H1 included all attachers in their response, regardless of if they were paying. • Regarding Item# 4 above, Mr. Piaskoski (Rogers) asked if any directions were provided to the utilities on what they should include in the costs. Mr. Jack (NGL) clarified that at this stage we are using an exploratory approach to see whether there are significant differences.
3) Literature Review	**Nordicity provided a summary of key findings of literature review completed to date on the following issues:** • Costing Methodologies: Historical costing is the most common costing methodology employed by the regulators. No evidence was found to date on use of other costing methodologies such as standard costing and forward looking costing. However, intervening parties (rate payers) recently argued for forwarding looking methodology. Cost Allocation Methodologies: Equal sharing allocation methodology has been adopted by at least three regulators including: 2000-86 Alberta Energy and

Agenda Items	Comments
	Utilities Board (AEUB), 2016 Tennessee Valley Authority, and 2005 Ontario Energy Board (OEB). Proportional use allocation methodology has been primarily adopted by the regulators including 2014 New Brunswick Energy and Utilities Board (NBEUB), 2002 Nova Scotia Utility and Review Board (NSURB), following CRTC (Canadian Radio-television and Telecommunications Commission) pole attachment rate methodology. Mr. Devdas (TH) raised concern that only NBEUB and CRTC decisions are being referenced. Regarding proportional use methodology Mr. Boldt (H1) pointed out that it is not economically efficient to duplicate the pole structure and raised the question: "Did anyone do this calculation. It was clarified that that the cited decisions are the findings of the respective boards and not that of Nordicity's." Mr. Ahmed (NGL) noted that no such study comparing the cost implications of single versus duplicate pole infrastructure was found, and also noted that different regulators have ruled that there should not be duplication of pole infrastructure. Mr. Boldt (H1) further noted that the argument for no duplication of pole is not necessarily economic. Mr. Jack (NGL) also noted that Federal Communications Commission determinations are example of incremental allocation methodology. Mr. Piaskoski (Rogers) noted that according to his understanding incremental approach is always based on incremental cost not incremental space. Mr. Ahmed (NGLP) clarified that incremental space could be one of the incremental cost drivers. • Rate Methodologies: Mr. Jack (NGL) noted that pole attachment rate may be based on either number of attachers (users) or number of attachments and no precedent was found where rate was based on number of attachments instead of number of attachers. Mr. Rubenstein (SEC) pointed out that the task is to allocate cost – what drives cost: attacher or attachments? Mr. Eby (BHT) asked if the methodology is being revisited. Mr. Ahmed (NGL) noted that any comments and recommendations from the members in this regard would be welcome.

4) Preliminary Analysis	**Nordicity presented its preliminary analysis based on the data submitted by utilities to date:**
	
	• Pole Specs: 76% of the 523K joint use poles are 35' (27%), 40' (28%) and 45' (21%), referred to as sample poles. The weighted average length of sample poles is 38.8' compared to 40' used in 2005 OEB Order. Based on actual data submitted, the differences in specs between sample pole weighted average and 2005 OEB Order are as follows:
	
	   i) Power Space: 11.4' (2005 OEB: 11.5') – 0.1' lower
	
	   ii) Separation Space: 3.1' (2005 OEB 3.25') – 0.15' lower
	
	   iii) Communications Space: 2.2' (2005 OEB 2') – 0.2' higher
	
	   iv) Clearance Space: 14.6' (2005 OEB 17.25') – 2.65' lower
	
	   v) Buried Space: 7.5' (2005 OEB 6') – 1.5' feet higher
	
	   vi) Total Space (size): 38.8' (2005 OEB 40') – 1.2' lower
	
	Mr. Boldt (H1) noted that above average is a good representation. However, Mr. Rubenstein (SEC), while agreed using 40' but noted it is not necessarily presentative. Mr. Piaskoski (Rogers) asked how communication space can be greater than 2 feet?

Agenda Items	Comments
	• <u>Pole Population</u>: Based on the data submitted the pole population increased by 0.87% per year (compounded annual growth rate). However, case of 3 utilities the pole population decreased in terms of annual rate: TH decreased by 1.47% per year, LH decreased by 0.19% per year and HN decreased by 0.26% per year. Mr. Rubenstein (SEC), Mr. Boldt (H1), Mr. Malone (HO), Mr. Wilkie (TbayTel), Mr. Eby (BHT) pointed out that poles age versus replacement are main factors that are driving costs. Mr. Ahmed (NGL) suggested a more standard approach would be more appropriate to incorporate replacement cost since replacement plans can vary from utility to utility.
	• <u>Capital Cost Trends</u>: Based on data submitted, average capital cost per pole (embedded and net embedded) increased significantly since 2005 – at compounded annual growth rate (CAGR) of 4.60% (Embedded) and 7.97% (Net Embedded). Using 2005-2015 data submitted the overall net embedded average cost is $905 as compared to $478 used in 2005 OEB order. There is also significant variation across utilities in terms of CAGR and their 2005-2015 average cost as noted below:
	i) TH: Embedded: $2,176 (CAGR 1.17%), Net Embedded $1,309 (CAGR 5.69%)
	ii) LH: Embedded: $997 (CAGR 19.39%), Net Embedded $554 (CAGR 13.52%)
	iii) HO: Embedded: $1,913 (CAGR -1.74%), Net Embedded $1,278 (CAGR 4.96%)
	iv) H1: Embedded: $1,389 (CAGR 5.39%), Net Embedded $858 (CAGR 8.59%)
	v) HN: Embedded: $1,403 (CAGR 4.00%), Net Embedded $1,091 (CAGR 9.64%)
	vi) Overall: Embedded: $1,460 (CAGR 4.60%), Net Embedded $905 (CAGR 7.97%)
	Mr. Piaskoski (Rogers) pointed to trends shown in graphs on slides 32-33 (NGL's presentation) and inquired for possible explanation for TH's et al. sudden cost drop followed by increase in subsequent years. Mr. Malone (HO) pointed out that increased pole replacement was factor in case of HO. Mr. Rubenstein (SEC), and Mr. Devdas (TH) pointed towards change in accounting policy and poles useful lives.
	• <u>Average Attacher Per Pole</u>: Based on the data submitted (excluding H1) the average attacher joint use pole (include 1 for power) is 2.37 (sample poles) and 2.40 overall. H1 did not submit attacher data by pole size and class, as requested. Instead H1 provided aggregate attacher data. In H1 data is incorporated, overall average attacher per pole is 2.28 (including 1 for power). OEB 2005 Order uses 2.5 average telecom attachers (excluding power). Mr. Piaskoski (Rogers) raised concerned on this analysis and emphasize that the number of attachers is probably the biggest issue in pole attachment rate proceedings. Responding to Mr. Piaskoski's (Rogers) concern Mr. Ahmed (NGL) pointed out that this analysis is based on the actual data submitted and the purpose is to put the facts into perspective and the analysis at this stage is not intended to lead to a change in approach or methodology.
	• <u>Depreciation Method</u>: It was noted that different depreciation rates are being used by utilities ranging from 1.7% to 4%, which represent useful life of ~60 to 25 years. It was also noted that in certain cases utilities changed depreciation rate during 2005-2015 period. For example, LH, HO, HN used 4% in years from 2005 to 2011 and then reduced to 2% (LH), 2.2% (HO) and 1.83% (HN) in 2012 to 2015. H1 used 1.83% in 2005-2014 and then reduced to 1.70% in 2015. Pointing to these trends Mr. Piaskoski (Rogers) inquired what caused change depreciation rate in 2012. The variation in depreciation rate raised the question of what is an appropriate useful life

Agenda Items	Comments
	of pole that can be used for rate methodology. Mr. Ahmed (NGL) and Mr. Malone (HO) pointed out that 2005 OEB Order used 25 years. Mr. Rubenstein (SEC) suggested to use OEB's guidelines in this respect and noted TH's rate calculation used 50 years, which Mr. Devdas (TH) also agreed with. Ms. Borovickic (LH) and Mr. Boldt (H1) confirmed they use 50 years. Mr. Malone (HO) confirmed they used 45 years.
	• <u>Maintenance, Administration Costs and Loss of Productivity costs</u>: It was noted that more data is required for better and more meaningful analysis. Mr. Boldt (H1) pointed out that nationally there is a lot of variation in what is included in maintenance cost and emphasized to first determine what should be included and not included in these costs. Mr. Devdas (TH) pointed out that vegetation is a predominant driver of their maintenance costs. Mr. Ahmed (NGL) suggests to use 10-year average or an alternative approach such as annual percentage factor. Mr. Rubenstein (SEC) suggested that alternative approach will be useful if the basis of the calculation is clearly known and also pointed out the need to use forward looking view of these costs. It was generally agreed more detailed breakdown of these cost is required for useful analysis. It was decided that NGL will issue template for utilities to submit detailed breakdown of these cost.
	• <u>Capital Carrying Cost</u>: Based on the data submitted annual capital carrying cost averaged 8.17% over 2005-2015, ranging between 5.75% to 8.75%. Mr. Ahmed (NGL) pointed out that 2005 OEB Order used 11.42%. Mr. Rubenstein (SEC) noted that these costs are hardest to predict and cannot always take the past as market conditions change. Mr. Ahmed (NGL) suggested that in the next PAWG meeting NGL will present methodological options to determine capital carrying cost for the purpose of rate calculations.
	• <u>CRTC Reference</u>: Mr. Boldt (H1) raised concern that in the discussions there has been a lot of reference to what the CRTC has done and noted that there is a lot of history about what the CRTC does not regulate poles in Ontario.
5) Economic Return Model	**To Illustrate an alternative approach to rate calculation Nordicity presented economic return model:**
	• Using economic return (DCF - discounted cash flow) approach, analysis of 2005 OEB Rate Order was presented using different scenarios.
	• 2005 OEB Order was based on the following inputs
	– Initial capital cost: $1,270 per pole
	– Embedded cost: $820 per pole
	– Pole Useful Life: 25 Years
	– Maintenance Expense: $7.61 per pole per year
	– Productivity Loss: $1.92 per pole per year
	– Capital Carrying Cost: 11.42% per annum
	Based on the above inputs annualized cost (using DCF method) is $164.98 per pole. Using 2005 OEB Rate of $22.35, the imputed revenue for all attachers including power is $102.28 per pole per year. Since imputed revenue of $102.28 is lower than annualized cost of $164.98, the 25 year DCF model does not generate a positive or breakeven Net Present Value (NPV). This implies, based on the above inputs the

Agenda Items	Comments
	current rate does not provide full recover of poles initial cost. However, if embedded cost of $820 is used instead of initial capital cost of $1,270 the same model produces near breakeven NPV (i.e. NPV = ~$0)
	• Mr. Ahmed (NGL) clarified that economic return approach presented has not yet been used in any decision on pole attachment rates. However, this is standard methodology that is commonly employed to demonstrate fair and just return on infrastructure investments and it presents an alternative view for discussion and analysis in this process. Mr. Lesychyn (OEB) also pointed out that this approach is used for projects, for example if H1 is building a transformer station this approach would be used to calculate the revenue requirement for the project.
	• Mr. Piaskoski (Rogers) raised concern regarding using initial capital cost instead of historical (embedded) cost of a pole and useful life of 25 years instead of 50 years. Mr. Ahmed (NGL) clarified that this analysis reflects inputs used in 2005 OEB Order. If this approach was to be used as an outcome of this process, then certainly adjustment to the inputs will be made. Mr. Ahmed (NGL) also pointed out that if historical cost is used then a replacement cost factor will need to be applied in this model given poles already in use will need to be replaced over the next 45 to 50 years. Mr. Jack (NGL) further clarified that we want to put this approach on the table for everyone to discuss. Mr. Brown (Cogeco) commented that this is a template or model of ways to calculate rate once the inputs to be used are determined.
6) Roundtable Discussion	• In the last 2 hours (approximately) of the meeting roundtable discussion was facilitated by Mr. Jack (NGL).
	• The roundtable session mainly focused discussion and review of the key issues identified in the previous meeting and additional detailed issues submitted by Rogers subsequent to the previous meeting (see slides 43-52 in NGL's presentation deck).
	• Based on the detailed discussion it was agreed that NGL issue additional data request template that will allow further and more detailed analysis of the issues raised. Based on data submitted NGL will present detail analysis and recommended option on the issues raised.
	• There was discussion about recommendations for a tiered provincial rate (utility size or by customer density) with a LDC specific data option.
7) Action Items	• **OEB**: will confirm if raw data filed by the utilities will be shared with the working group and that working group utility participants consent to sharing raw data within the group
	• **NGL:** will issue template for additional data for further analysis of the issues raised. Based on the data submitted NGL will present detailed analysis of the issues and recommended options in the next meeting PAWG # 3. The data request will mainly focus on the following cost items
	i) Vegetation Management (10-year data, separated into maintenance and capital for telcos but not separated for LDCs): line clearing, landowner contract, job planning/project management, brush control
	ii) Line Maintenance: line patrols, pole inspections, defect corrections, (optional: neutral)
	iii) Administration: processing permits, invoicing attachers, updating GIS, admin agreements, other (please specify)

Agenda Items	Comments
	iv) <u>Loss in productivity</u> (5-year data): trouble calls for 3rd party wires